CLAIMS

1) A device (1; 53; 70; 80; 87) for use in an audio signal processing system and comprising at least one operating member (11; 58; 72; 81) for processing an audio signal; and a vibration transmission circuit (14; 61; 74; 86; 91), which in turn comprises harmonic materials acoustically tuned to one another, and is connected to said operating member (11; 58; 72; 81) to distribute undesired vibration in controlled manner.

2) A device as claimed in Claim 1, wherein said transmission circuit (14; 61; 74; 86; 91) comprises at least one chain of harmonic materials connected acoustically to one another to transmit said vibration.

3) A device as claimed in Claim 1, wherein said transmission circuit (14; 61; 74; 86) comprises vibration relief means (15; 55; 76) connected to said operating member (11; 58; 72; 81) to receive said undesired vibration from the operating member (11; 58; 72; 81).

4) A device (1) as claimed in Claim 3, wherein said relief means (15; 55; 76) comprise a tuned soundbox (16).

5) A device as claimed in Claim 4, wherein said soundbox (16) comprises a supporting board (17) made of harmonic material and supporting the operating member (11; 58; 72; 81); and a container (18) housing said supporting board (17) in floating manner.

6) A device as claimed in Claim 5, wherein said supporting board (17) is mounted in floating manner so as

to be free to oscillate, about a central position of its own, in three perpendicular directions and with respect to said container (18).

7) A device as claimed in Claim 5, wherein said supporting board (17) is connected acoustically to said container (18) via the interposition, between the supporting board (17) and the container (18), of at least one tuned transmission member (28) for transmitting a particular range of frequencies.

8) A device as claimed in Claim 5, wherein said container (18) comprises at least one horizontal base board (23), and two vertical lateral walls (24) extending from opposite ends of the base board (23); the base board (23) and the lateral walls (24) together defining a C shape; and said supporting board (17) being a horizontal board parallel to the base board (23) and located between said lateral walls, and having a bottom surface (26) facing a top surface (25) of said base board (23).

9) A device as claimed in Claim 8, wherein said supporting board (17) is connected acoustically to said container (18) via the interposition, between the supporting board (17) and the container (18), of two tuned transmission members (28), each of which transmits a particular range of frequencies and is positioned contacting said bottom surface (26) of said supporting board (17) on one side, and contacting said top surface (25) of said base board (23) on the opposite side.

10) A device as claimed in Claim 9, wherein a first

of said two transmission members (28) comprises at least one acoustic tuning core (29) made of a highly vibration-transmitting essence.

11) A device as claimed in Claim 8, wherein a second of said two transmission members (28) comprises at least one intermediate body (32) made of a hard essence; said intermediate body (32) being connected to the bottom surface (26) of said supporting board (17) by means of first elastic members (33), and being connected to the top surface (25) of said base board (23) by means of second elastic members (34).

12) A device as claimed in Claim 11, wherein said intermediate body (32) normally rests on said lateral walls (24), and is capable of oscillating in a horizontal direction parallel to said supporting board (17).

13) A device as claimed in Claim 11, wherein said second transmission member (28) comprises a pair of intermediate bodies (32) on opposite sides of said container (18).

14) A device as claimed in Claim 11, wherein said first elastic members (33) comprise four silicone rubber feet (35); and said second elastic members (34) comprise four rubber feet (37).

15) A device as claimed in Claim 14, wherein said intermediate body (32) has a top surface (36) facing the bottom surface (26) of said supporting board (17), and a bottom surface (38) facing the top surface (25) of said base board (23); said first elastic members (33) being

connected to the bottom surface (26) of said supporting board (17), and resting on the top surface (36) of said intermediate body; and said second elastic members (34) being connected to the bottom surface (38) of said intermediate body, and resting on the top surface (25) of said base board (23).

16) A device as claimed in Claim 14, wherein said container (18) comprises a top panel (39) made of rigid material, located over and connected to said lateral walls, and parallel to said base board (23); said top panel (39) defining a top cover of a parallelepiped-shaped inner seat (40) of said container (18); and said supporting board (17) being housed inside said seat (40).

17) A device as claimed in Claim 16, wherein said top panel (39) is made of a harmonic metal.

18) A device as claimed in Claim 16, wherein said container (18) comprises a front panel (44) and a rear panel (43), which are made of metal material and are positioned vertically and perpendicular to said lateral walls (24) to close said seat (40).

19) A device as claimed in Claim 5, wherein said operating member (11; 58; 72; 81) is defined by an audio source reading mechanism (13); said mechanism (13) having a frame (46) fitted directly to said supporting board (17).

20) A device as claimed in Claim 5, wherein said operating member (11; 58; 72; 81) is defined by an electronic circuit (12); said electronic circuit (12)

having a frame (47) fitted directly to said supporting board (17); and at least one core (48) of highly vibration-transmitting acoustic essence being interposed between said frame (47) and said supporting board (17).

21) A device as claimed in Claim 5, comprising at least two said operating members (11), each of which has a respective frame (46, 47) fitted directly to said supporting board (17); a first of said two operating members (11) being defined by an audio source reading mechanism (13); a second of said two operating members (11) being defined by an electronic circuit (12); and at least one core (48) of highly vibration-transmitting acoustic essence being interposed between the frame (47) of said second operating member (11) and said supporting board (17).

22) A device (53) as claimed in Claim 1, and comprising a casing (54) having a horizontal top panel (55); said operating member (58) being defined by an electronic circuit (59) having a frame (60); and said transmission circuit (61) comprising a vertical first member (62) made of harmonic material and having a top surface (63) contacting said top panel (55); and a second member (64) made of harmonic material and having a first surface (65) contacting said first member (62), and a second surface (66) contacting said frame (60).

Figure 3

23) A device as claimed in Claim 22, wherein said horizontal top panel (55) is metallic and defines said vibration relief means (55).

24) A device (70) as claimed in Claim 1, wherein said operating member (72) is defined by an acoustic transducer (73) for converting an electric signal into a corresponding acoustic signal; said transmission circuit (74) comprising a panel (75) made of harmonic material and supporting said operating member (72); and a C-shaped member (76) housing said supporting panel (75).

25) A device as claimed in Claim 24, wherein said supporting panel (75) and said C-shaped member (76) together define a parallelepiped-shaped structure wherein said supporting panel (75) is positioned vertically.

26) A device as claimed in Claim 24, wherein said supporting panel (75) is made of a highly transmissive harmonic essence, in particular acoustic fir, and said C-shaped member (76) is made of a hard or semihard essence.

27) A device as claimed in Claim 26, and comprising at least one shaped body (77) located between said supporting panel (75) and said C-shaped member (76) to define a labyrinth.

28) A device as claimed in Claim 27, wherein said shaped body (77) is made of a hard essence.

29) A device as claimed in Claim 27, wherein said shaped body (77) is connected acoustically to said supporting panel (75) and/or to said C-shaped member (76) via the interposition of at least one core (78) of harmonic essence.

30) A device (70) as claimed in Claim 1, wherein said operating member (72) is defined by an acoustic

transducer (73) for converting an electric signal into a corresponding acoustic signal; the device (70) comprising a supporting structure (71) containing said acoustic transducer (73) and defined by a number of outer surfaces; and said transmission circuit (74) comprising a panel (79) made of harmonic material and connected to at least one outer surface of said supporting structure (71).

31) A device (80) for use in an audio signal processing system; the device (80) comprising at least one operating member (81) for processing an audio signal; and a vibration transmission circuit (86) connected to said operating member (81) to distribute undesired vibration in controlled manner; said operating member (81) being defined by at least one pair of insulated conductors (82, 83) for transmitting an audio signal in the form of electric pulses; a first conductor (82) being housed in a sheath (84) of insulating material defining a transmission path (P), and a second conductor (83) being coiled about said sheath (84); an inside dimension (D1) of said sheath (84) being greater than an outside dimension (D2) of said first conductor (82) to enable the first conductor (82) to oscillate inside the sheath (84); and the sheath (84) defining said vibration transmission circuit (86).

32) A device as claimed in Claim 31, wherein said operating member (81) comprises a third conductor coiled about a further sheath of insulating material housing

said first and second conductor (82, 83).

33) A device for use in an audio signal processing system; the device comprising at least one operating member; and a vibration transmission circuit connected to said operating member to distribute undesired vibration in controlled manner; said operating member being defined by at least a pair of insulated conductors for transmitting electrical power for supplying an audio apparatus; a first conductor being housed inside a sheath of insulating material defining a transmission path, and a second conductor being coiled about said sheath; and an inside dimension of said sheath being greater than an outside dimension of said first conductor to enable the first conductor to oscillate inside the sheath.

34) A device as claimed in Claim 33, wherein said operating member comprises a third conductor coiled about a further sheath of insulating material housing said first and second conductor.

35) A device (87) for use in an audio signal processing system; the device (87) comprising at least one operating member (89); and a vibration transmission circuit comprising harmonic materials and connected to said operating member (89) to distribute undesired vibration in controlled manner; said operating member being defined by an electric outlet (89) for supplying an audio apparatus.